

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/32896

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B66B 1/32

US CL : 187/288,276;188/1.11E

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 187/288,276;188/1.11E

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

BRS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,765,664 A (HERKEL et al) 16 June 1998 (16.06.1998) See entire document	1-9
A	US 5,241,255 A (OSHIMA et al) 31 August 1993 (31.08.1993)	
A	US 4,982,815 A (ARABORI et al) 8 January 1991 (08.01.1991)	
A	US 4,928,021 A (YONEMOTO) 22 May 1990 (22.05.1990)	
A	US 4,898,263 (MANSKE et al) 6 February 1990 (06.02.1990)	
A	US 6,442,350 B1 (ERKER) 23 July 2002 (23.07.2002)	

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Date of the actual completion of the international search

19 March 2004 (19.03.2004)

Date of mailing of the international search report

09 APR 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

For Jack Lavinder

Telephone No. (703) 308-1113

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